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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,255	06/16/2000	Susan L. Rose-Pehrsson	83,367	4572

7590

03/17/2003

Barry A Edelberg
Office of the Associate Counsel for Intellectual
Code 1008.2
Naval Research Laboratory
Washington, DC 20375-5325

EXAMINER

TANG, SON M

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 03/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,255

Applicant(s)

ROSE-PEHRSSON ET AL.

Examiner

Son M Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
 - (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
 - (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
 - (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
 - (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
 - (f) BRIEF SUMMARY OF THE INVENTION.
 - (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
 - (h) DETAILED DESCRIPTION OF THE INVENTION.
 - (i) CLAIM OR CLAIMS (commencing on a separate sheet).
 - (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
 - (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).
1. The disclosure is objected to because of the following informalities:
- 1. Missing abstract
 - 2. No drawings with Brief Description of Drawings

3. All proper headings

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the ***claimed limitations*** as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **1-3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okayama [US 5,168,262] in view of Roby et al. [US 5,691,703].

Regarding to claim 1: Okayama discloses a multi-criteria fire detection system, comprising:

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-a plurality of sensors (met by a plural fire detectors [DE1-DEN] included sensor part Fs as shown in Fig. 1) wherein each said sensor is capable of detecting a signature characteristic of a presence of a fire (which inform of the physical quantities of fire phenomenon, that cited in col. 6, lines 10-15 and 62-68) and providing an output indicating same to the net structure as a pattern for processing (see col. 7, lines 15-24);

-a processor including a probabilistic neural network for processing said outputs (cited in Abstract); wherein said probabilistic neural network comprises a nonlinear algorithm (which shown in Fig. 9) that operates by defining a probability density function for a plurality of data sets (which met by a constant table stored in ROM12, see col. 22, lines 27-42) that are each based on a training set data (which met by the pattern information table shown in Fig. 2-2A); whereby said algorithm provides a decisional output indicative of the presence of a fire based on recognizing and discriminating between said data sets [K] and whether said outputs [OUT] of suffice to substantially indicate the presence of a fire (as shown in Fig. 3A-3B, and col. 22, lines 27-43).

Okayama fails to specify that wherein the neural network comprises, non-parametric pattern recognition system. Okayama has showed that the system is ~~be~~ able to recognize the unclassified input patterns as shown in Fig. 2-2A and be discriminated against reference K (constant table values) from the known fire classes (as cited in col. 22, lines 27-43), therefore, it would be obvious that the non-parametric recognition system may be included in the system or it can be alternative implemented with other device that perform equally well as described above.

Okayama does not expressly specifying an optimized kernel width parameter, which uses to calculate and filtering for a precise data set. As stated by Okayama in col. 1 lines 55-68, that

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Okayama is being aware of the erroneous or false alarm due to the influence of noise. Okayama uses a first auxiliary processing means at the values collecting detector and provides fire information values input from the first processor to the second processor for enhancing reliability information (col. 3, lines 29-45). Therefore, however, as long as the data are being filtered, employing any type of filter for performing the same function would not constitute an inventive step but an obvious of design choice. It obvious in skill in the art at the time the invention was made that one would use a well-known type of device such as an optimized kernel width parameter for a precisely data in the above invention for filtering the fire information as desired.

Okayama does not specify wherein the data sets includes, a baseline, non-fire, first data set; a second, fire data set; and a third, nuisance data set.

Roby et al. teach a multi-signature fire detector which comprising, a non-fire data, fire data (cited in Fig. 11-12 and col. 12, lines 1-42) and nuisance data (cited in col. 10, lines 3-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use three basic data sets as taught by Roby et al. into the system of Okayama for the advantage of enhance a specific output which increasing safety.

Regarding to claim 2: Again, the recite limitation has rejected and described in claim above.

Regarding to claim 4: The claimed method steps are interpreted and rejected as rejection stated above. Further more, the claimed “encoding each of said plurality of signatures in a numerical output representative of a point or location in a multidimensional space” is stored in RAM11 [see Fig. 4 and col. 15, lines 5-8].

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6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okayama and Roby et al. as applied to claim 1 above, and further in view of Golub et al. [US 2003/0017481].

Regarding to claim 3: Okayama and Roby et al. disclose the instant claimed invention except for: a cross-validation protocol in the algorithm, Golub et al. teach a classifying and identifying method which comprising, a method of cross validation for predicting the protocol data to define the parameters weighted and distinct the errors [as shown in Fig. 1A, 3A and ¶ [0119-0120 and 0123]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the cross-validation method as taught by Golub et al. into the system of the combination above, for enhancing a strong prediction of possibility fire characteristic of detected values.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohtani et al. [US 5,670,938], Tice [US 6,222,456], Davidson [US 5,237,512], Pedersen et al. [US 5,832,187], Alexandro, Jr. et al. [US 5,349,541], Slemon et al. [US 5,910,765] and Ishii [US 4,749,987]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son M Tang whose telephone number is (703)306-5970. The examiner can normally be reached on 4/9 First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Daniel J Wu can be reached on (703)308-6730. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3988 for regular communications and (703)305-3988 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

Son Tang
March 5, 2003


DANIEL J. WU
PRIMARY EXAMINER
3/07/03